

■ Product Model Reference & Naming 【产品型号参考及型号命名】

4-Quadrants TRIACs

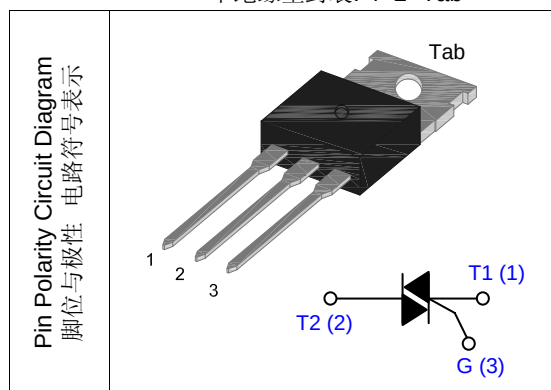
8A Amperes	产品型号列表、种类区分、型号对照电压值					型号后缀 触发电流 1~3象限
	600V	700V	800V	900V	1000V	
四象限品种 非绝缘型封装 4-Quadrants Non insulated	BT137-600D	BT137-700D	BT137-800D	BT137-900D	BT137-1000D	D≤5mA
	BT137-600E	BT137-700E	BT137-800E	BT137-900E	BT137-1000E	E≤10mA
	BT137-600F	BT137-700F	BT137-800F	BT137-900F	BT137-1000F	F≤25mA
	BT137-600	BT137-700	BT137-800	BT137-900	BT137-1000	≤35mA
	BT137-600G	BT137-700G	BT137-800G	BT137-900G	BT137-1000G	G≤50mA
说明	常规品种	未量产	高压品种	未量产	未量产	

<u>H</u>	<u>BT</u>	<u>137</u>	<u>-</u>	<u>600</u>	<u>E</u>																																			
↓	↓	↓	↓	↓	↓																																			
厂商	品种表示	电流表示	封装外形表示	电压表示	触发电流表示																																			
HAOHAI ELECTRONICS CO.,LTD.	BT: Bi-directional Triode 三端双向可控硅开关 所有BT字头的产品 均为非绝缘型品种	131=1A 132=1A 134=4A(SOT82) 134=4A(220AB) 136=4A 137=8A 138=12A 139=16A	封装外形表示 无字母: TO-220AB X: TO-220F, SOT186A F: TO-220F, SOT186A S: TO-252 DPAK or SOT428 B: D ² PAK TO-263 W: SOT-223	电压表示 200=200V 400=400V 600=600V 700=700V 800=800V 900=900V 1000=1000V 1200=1200V	<table><tr><td></td><td colspan="4">I_{GT}</td></tr><tr><td></td><td>I</td><td>II</td><td>III</td><td>IV</td></tr><tr><td>D</td><td>5</td><td>5</td><td>5</td><td>10</td></tr><tr><td>E</td><td>10</td><td>10</td><td>10</td><td>25</td></tr><tr><td>F</td><td>25</td><td>25</td><td>25</td><td>70</td></tr><tr><td></td><td>35</td><td>35</td><td>35</td><td>70</td></tr><tr><td>G</td><td>50</td><td>50</td><td>50</td><td>100</td></tr></table> 除非另有说明		I _{GT}					I	II	III	IV	D	5	5	5	10	E	10	10	10	25	F	25	25	25	70		35	35	35	70	G	50	50	50	100
	I _{GT}																																							
	I	II	III	IV																																				
D	5	5	5	10																																				
E	10	10	10	25																																				
F	25	25	25	70																																				
	35	35	35	70																																				
G	50	50	50	100																																				

■ PINNING: TO-220AB or TO-220C (SOT78) 【3引脚直插半塑封】

Pin 管脚排列	Symbol 对应极性	Description 极性名词	Description 极性含义
1	T1	Main terminal 1	第一阳极
2	T2	Main terminal 2	第二阳极
3	G	Gate	门-控制极
4	Tab	----	散热片

不绝缘型封装: 4=2=Tab



■ ABSOLUTE MAXIMUM RATINGS

SYMBOL 符号表示	Signification in Symbol 器件参数字母符号含义	Test Conditions 测试条件说明	Value 数值	Unit 单位
$I_{T(RMS)}$	RMS On-state Current (full sine wave)	$T_c=102^{\circ}\text{C}$	8	A
I_{TSM}	Non Repetitive Surge Peak on-state Current (full cycle, $T_j=25^{\circ}\text{C}$)	$f=60\text{Hz}, t=16.7\text{mS}$	71	
		$f=50\text{Hz}, t=20\text{mS}$	65	
I_{GM}	Peak Gate Current	$t_p=20\mu\text{s}, T_j=25^{\circ}\text{C}$	2	
I^2t	I^2t Value for Fusing Consideration	$t_p=10\text{mS}, T_j=25^{\circ}\text{C}$	21	A^2ses
di/dt	Repetitive rate of rise of on-state current after triggering	$I_{GT1} - I_{GT2} - I_{GT3}$	50	$\text{A}/\mu\text{s}$
		I_{GT4}	10	
V_{DRM}	Repetitive peak off-state Voltages 见型号对照列表	$T_j=25^{\circ}\text{C}$	600~1000	V
V_{RRM}	Repetitive peak Reverse Voltages 见型号对照列表	$T_j=25^{\circ}\text{C}$		
V_{DSM}	Non Repetitive Surge peak off-state Voltages	$t_p=10\text{mS}, T_j=25^{\circ}\text{C}$	+100	
V_{RSM}	Non Repetitive peak Reverse Voltages	$t_p=10\text{mS}, T_j=25^{\circ}\text{C}$	+100	
$P_{G(AV)}$	Average gate power dissipation	$T_j=25^{\circ}\text{C}$	0.5	W
P_{GM}	Peak gate power	$t_p=20\mu\text{s}, T_j=25^{\circ}\text{C}$	5	
T_j	Operating Junction Temperature Range		-40 ~ +125	$^{\circ}\text{C}$
T_{stg}	Storage Junction Temperature Range		-40 ~ +150	
$R_{th(J-C)}$	Thermal Resistance Junction to mounting base	Full Cycle	2.0	$^{\circ}\text{C}/\text{W}$

■ 绝缘电阻特征: ISOLATION LIMITING VALUE & CHARACTERISTIC ($T_{hs}=25^{\circ}\text{C}$ unless otherwise specified)

■ STATIC CHARACTERISTICS

SYMBOL 符号表示	Paramenter & Test Conditions 符号含义 及 参数测试条件说明			BT137 Series					Unit 单位
				D	E	F	-	G	
I _{GT}	V _D =12V, R _L =30Ω	I - II -III	Max.	5	10	25	35	50	mA
		IV	Max.	10	25	70	70	100	
I _H	I _T =100mA	ALL	Max.	10	25	30	40	60	
I _L	I _G =1.2 I _{GT}	I -III-IV	Max.	15	30	40	50	60	
		II	Max.	20	40	60	70	90	
dV/dt	V _D =67%V _{DRM} gate open	T _J =125℃	Min.	5	10	50	100	200	V/μs
(dV/dt)C	(di/dt)C=3.6A/mS	T _J =125℃	Min.	1	2	5	8	10	
V _{GT}	V _D =12V, R _L =30Ω	ALL	Max.	1.3					V
V _{GD}	V _D =V _{DRM} , R _L =3.3KΩ, T _J =125℃	ALL	Min.	0.2					
V _{TM}	I _{TM} =10A, tp=380μs	T _J =125℃	Max.	1.65					
I _{DRM}	V _D =V _{DRM} , V _R =V _{RRM}	T _J =25℃	Max.	5					μA
I _{RRM}		T _J =125℃	Max.	1					mA

Electrical characteristics & Typical characteristics (电气特性与典型特征)

FIG.1: Maximum power dissipation versus RMS on-state current (full cycle)

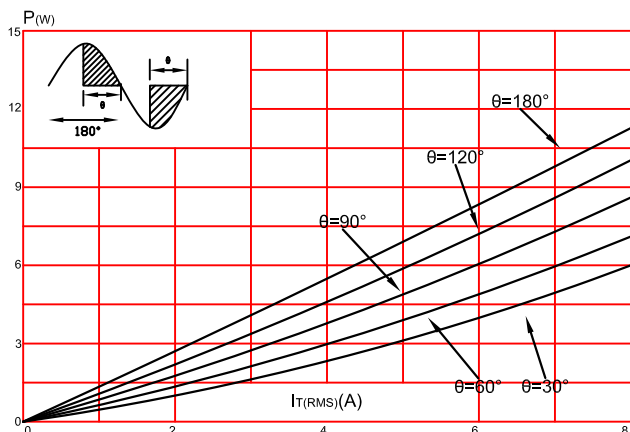


FIG.2: RMS on-state current versus case temperature (full cycle)

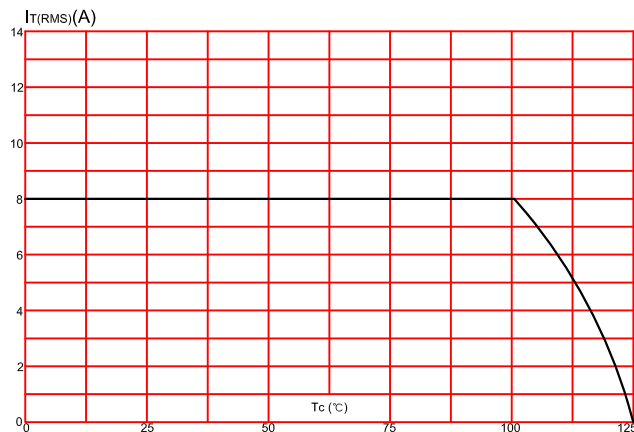


FIG.3: On-state characteristics (maximum values).

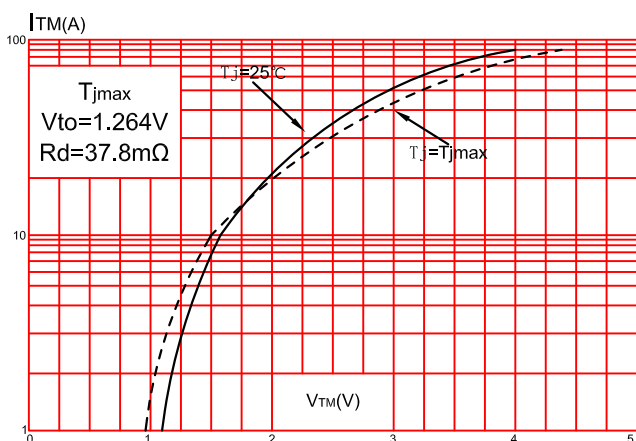


FIG.4: Surge peak on-state current versus number of cycles.

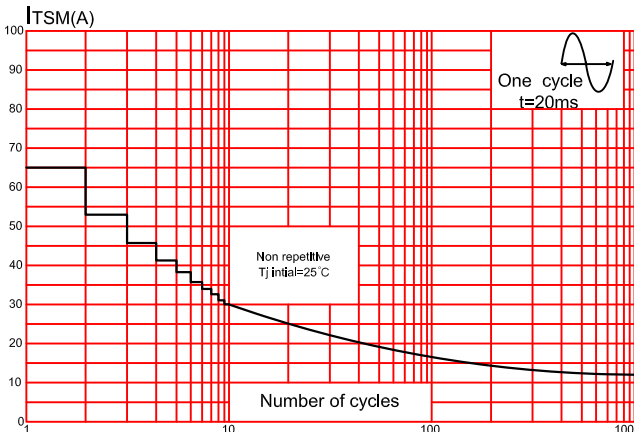


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t .

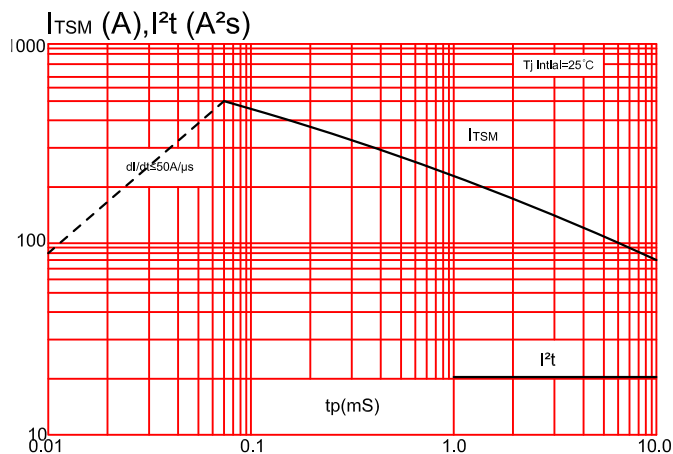
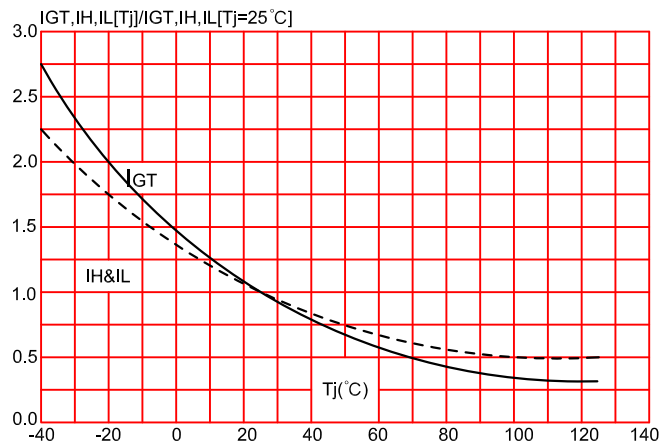
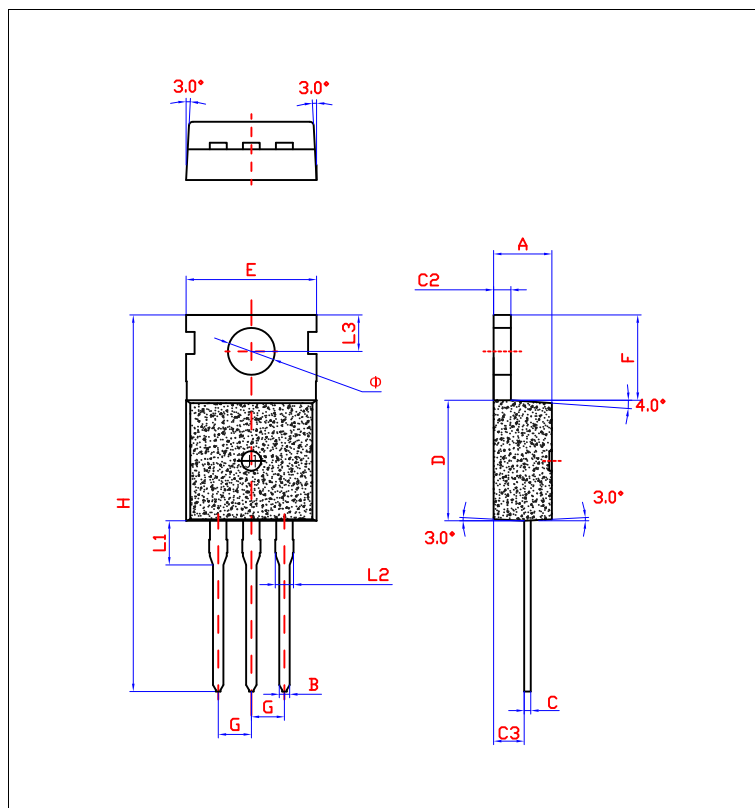


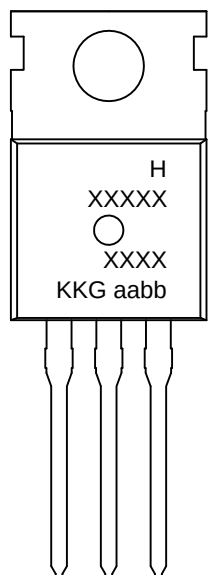
FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



PACKAGE MECHANICAL DATA (mm & inch)
TO-220AB (TO-220C 或 SOT78) 封装尺寸数据 (毫米与英寸对照)



REF	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.40	4.60	0.173	1.181
B	0.70	0.90	0.027	0.035
C	0.45	0.60	0.018	0.024
C2	1.23	1.32	0.048	0.052
C3	2.20	2.60	0.086	0.102
D	8.90	9.90	0.350	0.390
E	9.90	10.3	0.390	0.406
F	6.30	6.90	0.248	0.272
G	2.54		0.100	
H	28.0	29.8	11.0	11.70
L1	3.20		0.126	
L2	1.14	1.70	0.045	0.067
L3	2.65	2.95	0.104	0.116
Φ	3.60		0.142	



打印标识

H: 浩海电子
XXXXXXXXXX: 器件型号
KKG: 注册商标
aa: 出厂年份
bb: 出厂自然周 (01~53)

Marking

H: HAOHAI ELECTRONICS
XXXXXXXXXX: Part Number
KKG: Registered trademark
aa: Factory Year
bb: Factory natural Week (01~53)

包装规格
条管装、纸盒装
每管50只
每盒1000只
每箱5000只

Packaging Specifications
50Pcs/Tub
1000Pcs/BOX
5000Pcs/Cartons

Manufacturers version information

2006-02-25, KKG™ Product Data-1.0

2014-07-25, KKG™ Product Data-2.0



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